

Command holder cover for the mechanical gearbox of a vehicle**Patent number:** EP1065416**Also published as:****Publication date:** 2001-01-03

EP1065416 (A)

Inventor: BORDENCA CALOGERO (IT); PASTORELLO VALTER (IT)**Cited documents:****Applicant:** FIAT AUTO SPA (IT)

US4335623

Classification: F16H63/08; F16H63/20

US2951392

- european: F16H63/08

US3857299

Application number: EP19990125363 19991220

EP0117341

Priority number(s): IT1999TO00127U 19990701**Abstract of EP1065416**

The invention is directed to a cover (1) for the mechanical gearbox of a vehicle, equipped with seats for the mounting screws (3) and for the insertion and the support of the end section of the command group, as well as seats (18,19) for the support spindle of the control forks (8) of the forward gears.

Data supplied from the **esp@cenet** database - Worldwide

THIS PAGE BLANK (USPTO)



(19)

Europäische Patentamt
European Patent Office
Office européen des brevets



(11)

EP 1 065 416 A2

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
03.01.2001 Bulletin 2001/01

(51) Int Cl.7: F16H 63/08
// F16H63:20

(21) Application number: 99125363.4

(22) Date of filing: 20.12.1999

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: 01.07.1999 IT TO990127 U

(71) Applicant: FIAT AUTO S.p.A.
10135 Torino (IT)

(72) Inventors:
• Bordenca, Calogero
80040 Pollenta (NA) (IT)
• Pastorello, Valter
10040 Cumiana (TO) (IT)

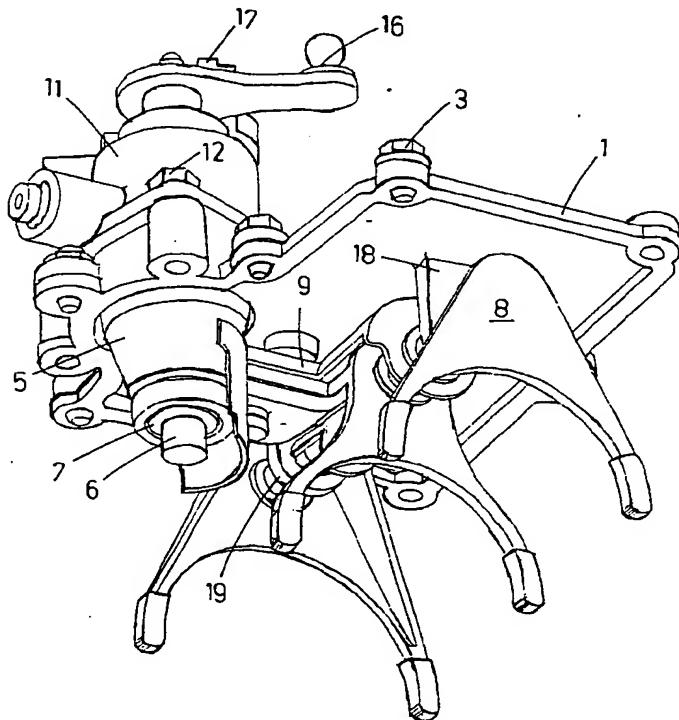
(74) Representative: Di Francesco, Gianni et al
Ing. Barzanò & Zanardo Milano S.p.A.
Corso Vittorio Emanuele II, 61
10128 Torino (IT)

(54) Command holder cover for the mechanical gearbox of a vehicle

(57) The invention is directed to a cover (1) for the mechanical gearbox of a vehicle, equipped with seats for the mounting screws (3) and for the insertion and the

support of the end section of the command group, as well as seats (18,19) for the support spindle of the control forks (8) of the forward gears.

FIG.1



EP 1 065 416 A2

Description

[0001] The present invention relates to a mechanical gearbox for vehicles and more particularly to the mounting of its commands on the cover of said gearbox.

[0002] Other proceedings are known from the state of the art, for the pre-assembly of the gearbox commands, which provide for the line side pre-mounting of some of the components of the gearbox command system. In particular are known, the pre-assembly of the command levers of the command spindle and thereafter their mounting on the cover of the gearbox bearing the commands. According to the previous technique, it is also known the pre-assembling of the forks on the spindle and the subsequent insertion of the mounted group in the gearbox, before it is closed via the cover equipped with the above-described commands. The pre-assemblies described make it possible to save time when mounting the gearbox, simplify processing and make component assembly possible in more appropriate areas. Pre-mounted pieces can also be tested before they are mounted on the gearbox.

[0003] The object of the present invention is to increase the possibility of implementing the above mentioned conditions, allowing for the line side pre-assembly of a larger number of components, without necessarily limiting the overall reliability of the gearbox.

[0004] This object is achieved by the present invention, which deals with the cover for the case of a mechanical gearbox for motor vehicles, presenting the characteristics claimed in claim 1.

[0005] Other characteristics and advantages will appear clear in the following description, reference being made to the accompanying drawings, provided for illustration purposes only :

- Figure 1 is a perspective view of the cover object of this invention;
- Figure 2 is a transversal sectional view of the cover in Figure 1; with the command spindle and the group of forward gear forks.

[0006] Reference being made to the figures, whereby 1 indicates the cover of case 2 of the mechanical gearbox of a vehicle, equipped with screws 3 to mount said cover on said case. A seat 5 on the cover is obtained by fusion and is designed to house the end of command spindle 6 of the gearbox, which can rotate and move in a roller bearing 7. Said end includes a driving nib (not visible) that engages the various forks 8 for getting into each gear once respective nib 9 has been selected via the movement of spindle 6. A support 11 is connected via screws 12 to cover 1 and allows the retention of a second bearing 14 where the other end section of spindle 1 rotates and moves. Said end section being connected to command levers 16 and 17 for the selection and insertion of the gears. Two brackets 18 and 19, obtained by fusion, make it possible to connect the assem-

bly of the gearbox command forks acting on secondary shaft 21, except for the fork of the reverse gear, to cover 1, in an appropriate position.

[0007] Consequently, the cover of the present invention, equipped with both the seat for the spindle and the brackets for the command assembly of the forks, makes it possible to assemble the gearbox commands on the line side, and to test them before they are mounted on the gearbox itself. This operation is very easy and is simplified by the fact that all the commands are already assembled in an operational position.

Claims

15

1. Cover for the case of a mechanical gearbox for motor vehicles, equipped with seats for the mounting screws and characterised by the fact that is equipped with either a seat (5) for the insertion and the support of the end section of the command group with the spindle (6) for gearbox selection and insertion, or with seats (18, 19) for the connection of the support spindle of the group of forks (8) for the insertion of the forward gears, making it possible to mount the two groups at the side of the assembly line of the gearbox.
2. Cover according to claim 1, characterised by the fact that the seats (5, 18, 19) are obtained by fusion.

30

35

40

45

50

55

FIG.1

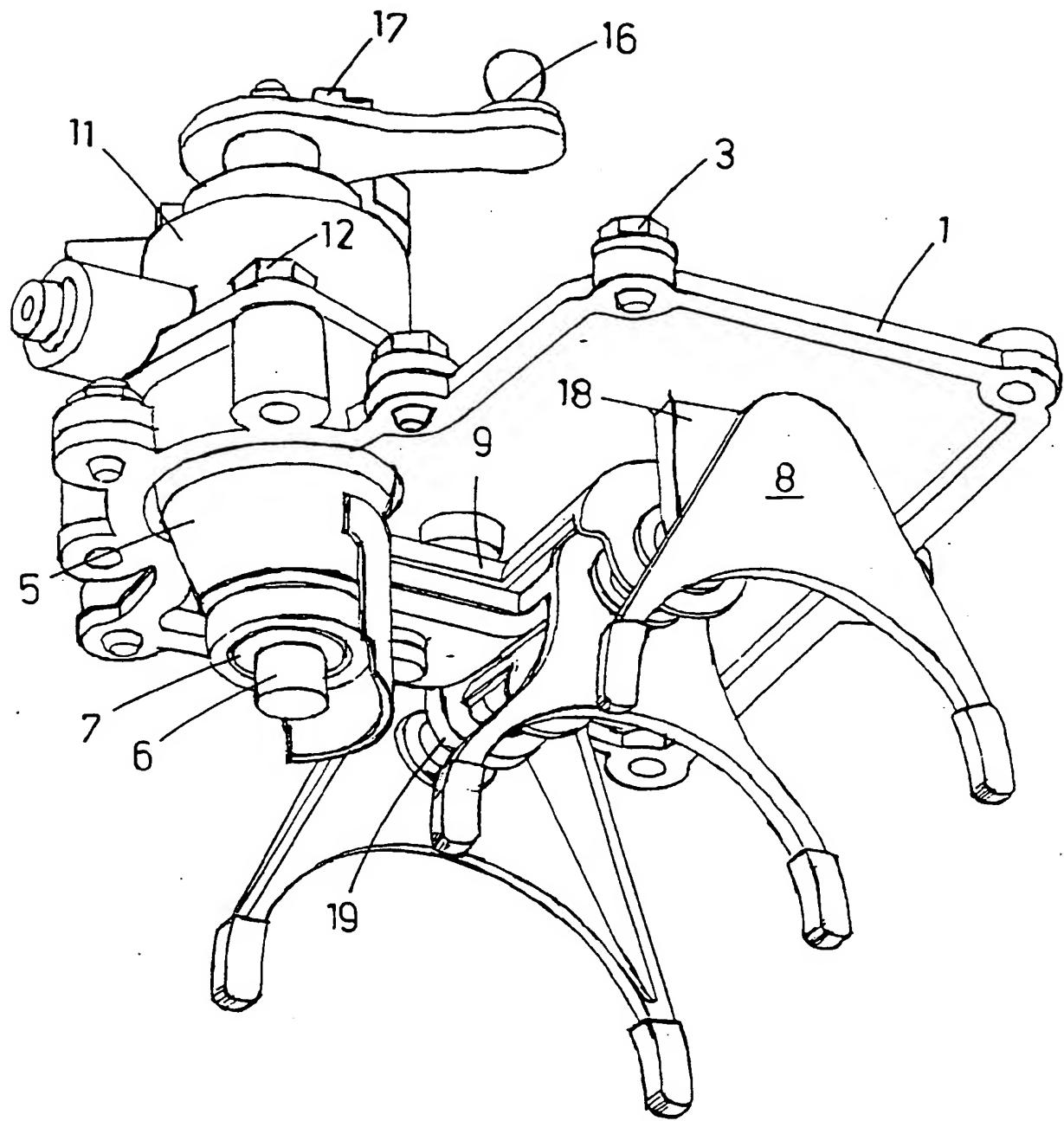
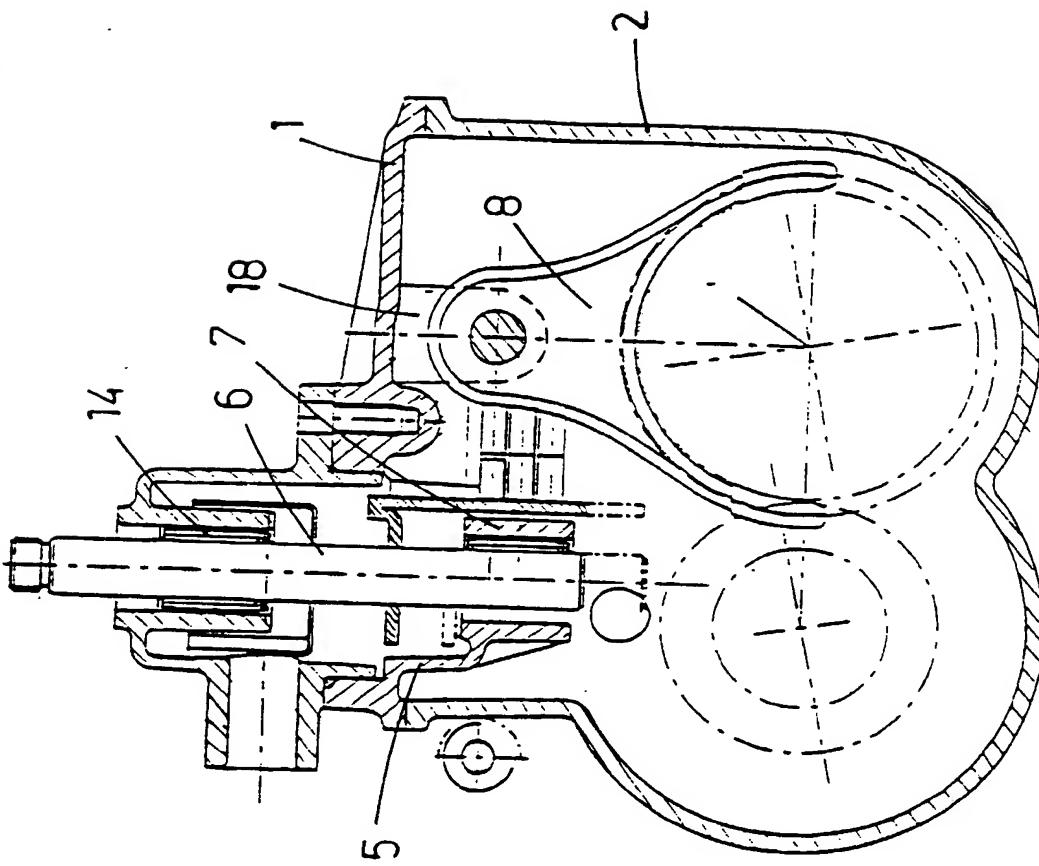


FIG.2



(19)



Europäische Patentamt
European Patent Office
Office européen des brevets



(11)

EP 1 065 416 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
10.12.2003 Bulletin 2003/50

(51) Int Cl.7: F16H 63/08
// F16H63:20

(43) Date of publication A2:
03.01.2001 Bulletin 2001/01

(21) Application number: 99125363.4

(22) Date of filing: 20.12.1999

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE

Designated Extension States:
AL LT LV MK RO SI

(30) Priority: 01.07.1999 IT TO990127 U

(71) Applicant: FIAT AUTO S.p.A.
10135 Torino (IT)

(72) Inventors:
• Bordenca, Calogero
80040 Pollenta (NA) (IT)
• Pastorello, Valter
10040 Cumiana (TO) (IT)

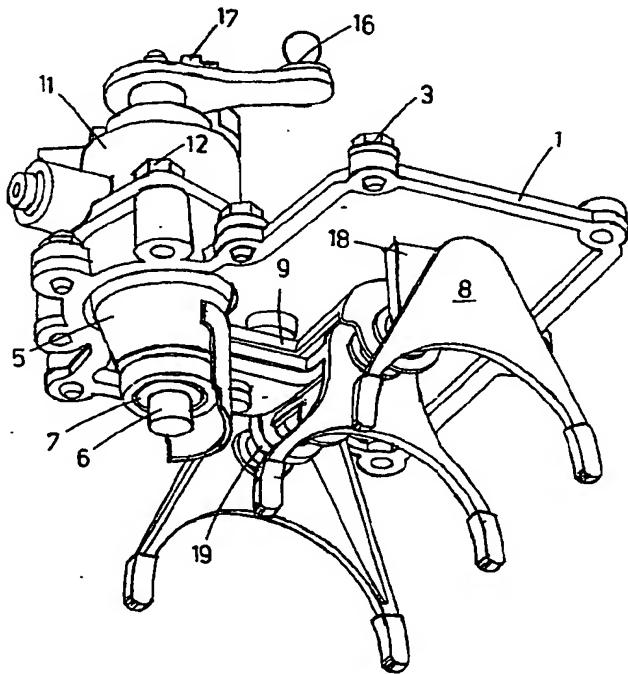
(74) Representative: Di Francesco, Gianni et al
Ing. Barzanò & Zanardo Milano S.p.A.
Corso Vittorio Emanuele II, 61
10128 Torino (IT)

(54) Command holder cover for the mechanical gearbox of a vehicle

(57) The invention is directed to a cover (1) for the mechanical gearbox of a vehicle, equipped with seats for the mounting screws (3) and for the insertion and the

support of the end section of the command group, as well as seats (18,19) for the support spindle of the control forks (8) of the forward gears.

FIG.1



EP 1 065 416 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 99 12 5363

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 4 335 623 A (KRONSTADT VICTOR) 22 June 1982 (1982-06-22) * the whole document *	1,2	F16H63/08 //F16H63:20
X	US 2 951 392 A (THOMAS BACKUS) 6 September 1960 (1960-09-06) * column 3, line 9-32; figures 1,2 *	1,2	
X	US 3 857 299 A (MORRISON W) 31 December 1974 (1974-12-31) * the whole document *	1,2	
X	EP 0 117 341 A (EATON CORP) 5 September 1984 (1984-09-05) * the whole document *	1,2	

The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
MUNICH	21 October 2003	Martinvalet, C-I	
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			
T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 99 12 5363

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

21-10-2003

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 4335623	A	22-06-1982	NONE		
US 2951392	A	06-09-1960	NONE		
US 3857299	A	31-12-1974	GB 1408311 A AU 475450 B2 AU 5284373 A CA 996452 A1 DE 2313366 A1 ES 412678 A1 FR 2177112 A1 IT 980617 B JP 1139727 C JP 49006356 A JP 57016364 B SE 378560 B	01-10-1975 26-08-1976 05-09-1974 07-09-1976 20-09-1973 01-01-1976 02-11-1973 10-10-1974 24-03-1983 21-01-1974 05-04-1982 08-09-1975	
EP 0117341	A	05-09-1984	US 4550627 A BR 8306812 A DE 3377002 D1 EP 0117341 A2 JP 59112319 A	05-11-1985 17-07-1984 14-07-1988 05-09-1984 28-06-1984	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

